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# **NSPS**

## **Increasing Protection Through Shared Awareness**

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**Homeland Defense Physical Infrastructure  
Training Conference  
May 18, 2004**

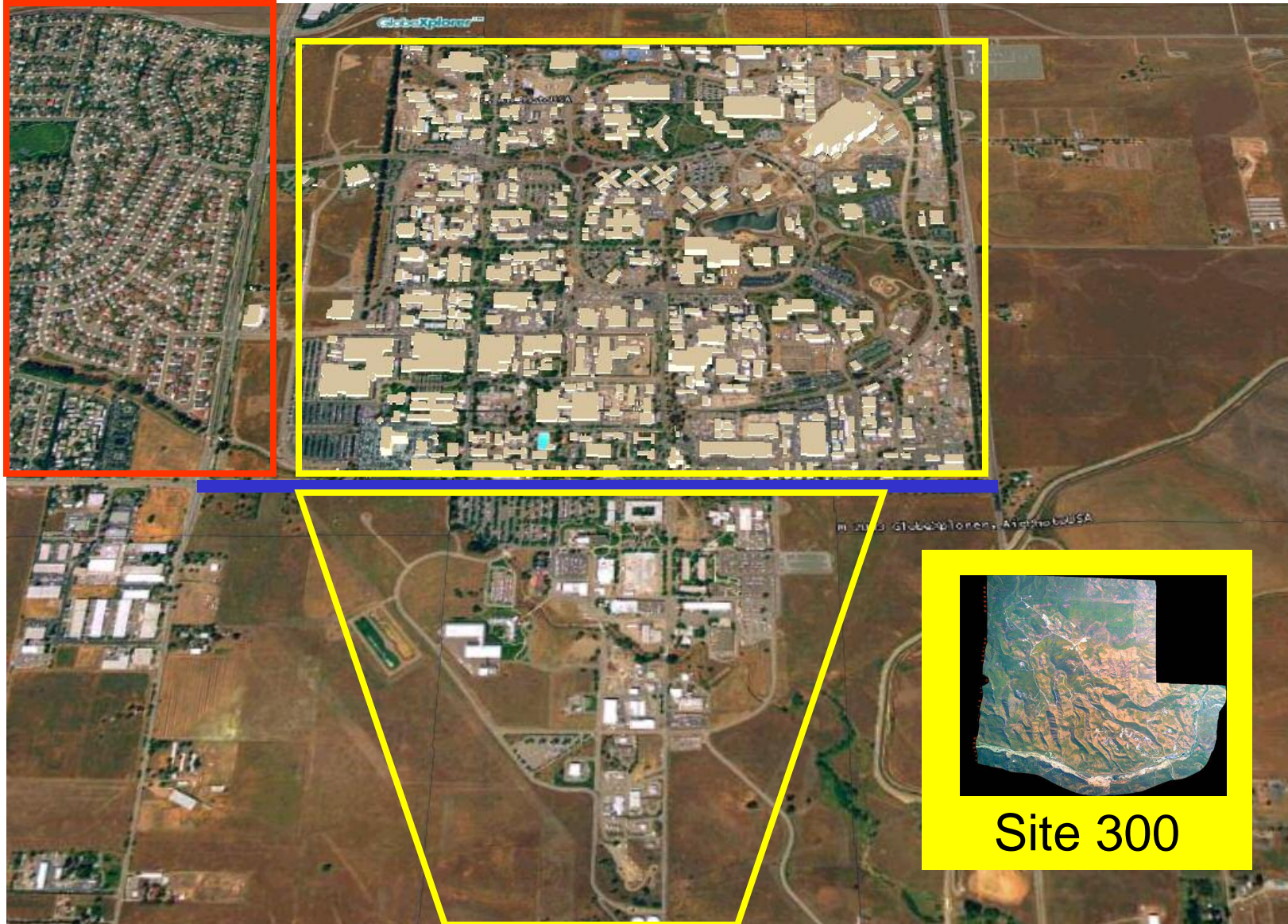


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# The Problem





# The LLNL Concerns



- LLNL requires protection of high value/high consequence assets
- We already develop high security systems, serve as the lead for DOE atmospheric release plume modeling and host the county's fire dispatch system
- Post-9/11 thinking but high levels of protection were already there
- Life in California – earthquakes, wildlife and wildfires
- Growing residential neighborhoods around the lab – literally across the street
- Greater need to involve local governments

**...so why do I still wonder what am I missing?**

# NSPS Concept

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- **Many sites have a variety of systems monitoring security, emergency and service conditions:**
  - Security, Fire, Radiation Release, Cyber Attack, Utilities, ...
  - These systems report to independent and not-always-connected consoles
  - Commonly telephone, radio, and e-mail communication are sole methods to coordinate response
- **NSPS will collect incident reports from these separate systems and report these incidents to one common console**
  - No impact on the reporting systems
  - Present data to all interested, authorized users (different levels of authorization, different modes, personalization)

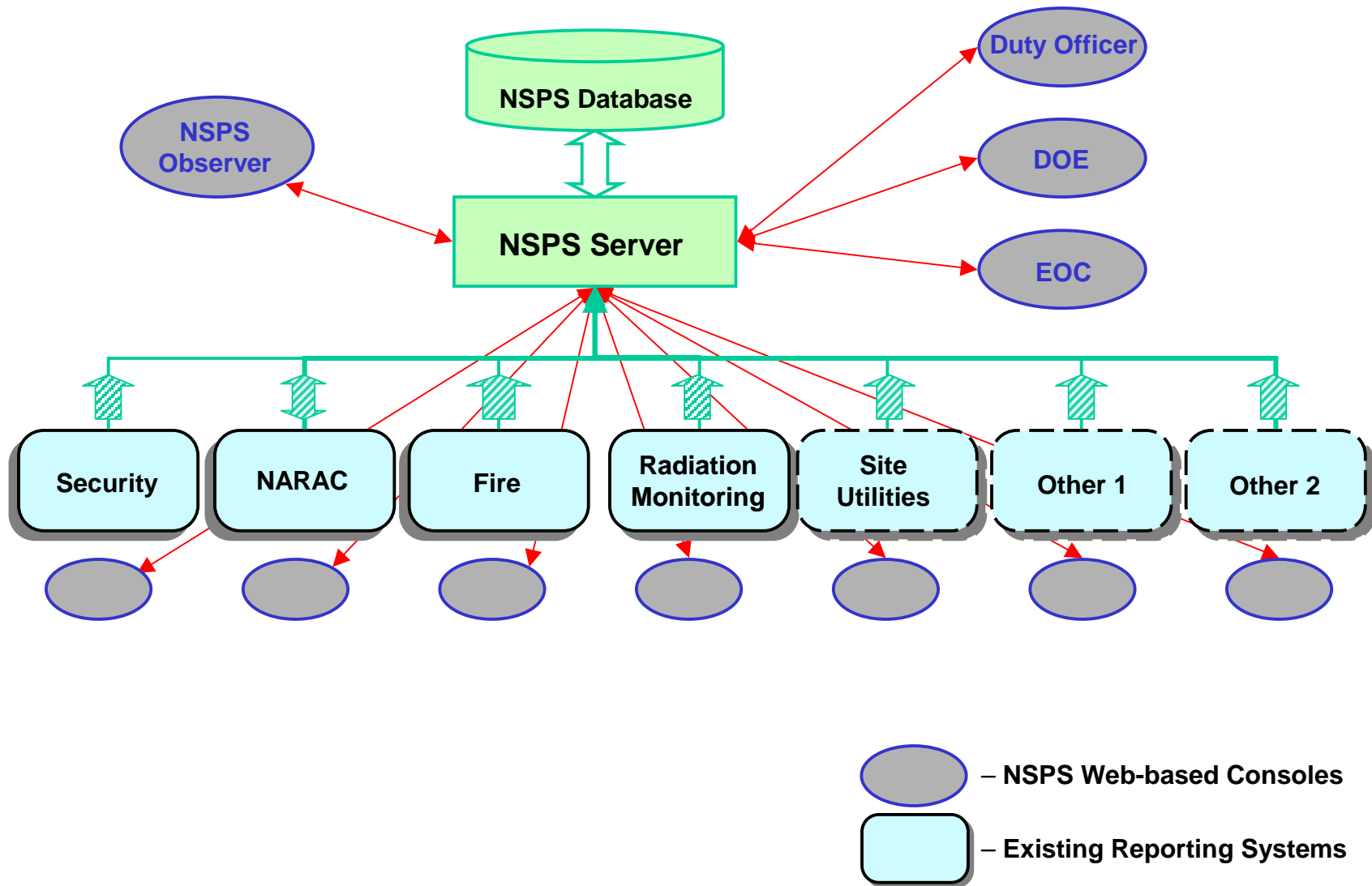
# **NSPS Goals**

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- **Increase the effectiveness of security and emergency services**
  - Improve response to multiple threat scenarios
  - Coordinate multiple responses during single events
  - Increased automation for detection of patterns and anomalies
- **Allow site response decisions to be made with**
  - Full and coordinated knowledge of the situation
  - Real-time feedback on actions taken
- **Retain incident data indefinitely**
  - Incident playback
  - Forensic analysis

# NSPS Architecture



# NSPS Features

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- **Standardized Reporting System Interfaces**
  - Standardized XML interface for each system type
  - Expandable as new reporting systems become available
- **Incident management**
  - Keyboard entry of incidents
  - Response force deployments
  - Assignments
- **User Interface**
  - Map and text display of all incidents
  - Browser based
  - Account/login with assigned privilege to
    - View data
    - Add, modify incidents
- **Standard COTS Tools**
  - Oracle RDB
  - Apache/Tomcat
  - ESRI map software
- **Interface with LLNL's National Atmospheric Release Advisory Center (NARAC) for map display of toxic plume releases**



# NSPS Prototype Screen



NSPS - Main Window - Microsoft Internet Explorer

**Nuclear Site Protection System** [LogOut 'chou7'](#)

Preferences Tools Incidents

**Incident Summary:**

- 26** Nsps: FIRE100 04/15/2004 04:10:36PM  
Fire Alarm at B111 R123
- 29** Nsps: ARGUS300 04/15/2004 04:10:39PM  
Emergency exit door open at B111 R112
- 42** Nsps: NSPS42 04/15/2004 04:10:40PM  
Emergency assembly point for employee evacuations
- 45** Nsps: NSPS45 04/15/2004 04:10:45PM  
Some sandia incident

**Weather Stations:**

Name	Temp	Wind	Barometer
Livermore	91 F	14 mph NW	13.24 in
Site 300	101 F	11 mph NW	61.17 in

**Reporting Systems:**

Name	Status	Last Report
Argus	Disconnected	04/22/2004 08:47:36AM
Narac	Disconnected	04/22/2004 08:47:36AM

**Users:**

Name	Title
chou7	Developer

**System Status:**

OK since Thu Apr 22 12:08:26 PDT 2004

Last Update: Thu Apr 22 12:12:08 PDT 2004  
Response Time: 32 (ms)

[Refresh Now](#)

Local intranet

# NSPS Prototype Screen



NSPS - Main Window - Microsoft Internet Explorer

**Nuclear Site Protection System** [LogOut 'chou7'](#)

Preferences Tools Incidents

**Incident Summary:**

- 26** Nsps: FIRE100 04/15/2004 04:10:36PM  
Fire Alarm at B111 R123
- 29** Nsps: ARGUS300 04/15/2004 04:10:39PM  
Emergency exit door open at B111 R112
- 42** Nsps: NSPS42 04/15/2004 04:10:40PM  
Emergency assembly point for employee evacuations
- 45** Nsps: NSPS45 04/15/2004 04:10:45PM  
Some sandia incident

**Weather Stations:**

Name	Temp	Wind	Barometer
Livermore	91 F	14 mph NW	69.38 in
Site 300	101 F	11 mph NW	43.42 in

**Reporting Systems:**

Name	Status	Last Report
Argus	Disconnected	04/22/2004 08:47:36AM
Narac	Disconnected	04/22/2004 08:47:36AM

**Users:**

Name	Title
chou7	Developer

**System Status:**

OK since Thu Apr 22 12:08:26 PDT 2004

Last Update: Thu Apr 22 12:13:23 PDT 2004  
Response Time: 32 (ms)

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Done Local intranet



# NSPS Prototype Screen



NSPS - Main Window - Microsoft Internet Explorer

**Nuclear Site Protection System** [LogOut 'chou7'](#)

Preferences Tools Incidents

**Incident Summary:**

**Incident Summary:**

- 26** Nsps: FIRE100 04/15/2004 04:10:36PM  
Fire Alarm at B111 R123
- 29** Nsps: ARGUS300 04/15/2004 04:10:39PM  
Emergency exit door open at B111 R112
- 42** Nsps: NSPS42 04/15/2004 04:10:40PM  
Emergency assembly point for employee evacuations
- 45** Nsps: NSPS45 04/15/2004 04:10:45PM  
Some sandia incident

**Weather Stations:**

Name	Temp	Wind	Barometer
Livermore	91 F	14 mph NW	44.34 in
Site 300	101 F	11 mph NW	5.17 in

**Reporting Systems:**

Name	Status	Last Report
Argus	Disconnected	04/22/2004 08:47:36AM
Narac	Disconnected	04/22/2004 08:47:36AM

**Users:**

Name	Title
chou7	Developer

**System Status:**

OK since Thu Apr 22 12:08:26 PDT 2004

Last Update: Thu Apr 22 12:15:51 PDT 2004  
Response Time: 32 (ms)

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Done Local intranet

# Questions to be Answered

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- Meeting diverse user community's needs
- Security concerns
- User interfaces – fixed and mobile
- Capacity issues - of systems integrated, of users
- How to evaluate success
- NSPS as a method of intersite sharing and communication

# **NSPS Schedule**

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<b>June 2004</b>	<b>Proof of architecture with Security System</b>
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<b>Sept 2004</b>	<b>Operational Prototype with Security, Fire, Rad Monitoring</b>
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<b>Sept 2005</b>	<b>Operationally functional at LLNL</b>
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## **Contact Information**

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